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ART. 17. LOCALITIES OF THE HERPETOLOGICAL COLLECTIONS MADE DURING THE "NOVARA REISE"

By CARL GANS Research Associate, Carnegie Museum

Recent work, involving forms of the genera Dasypeltis and Liophis mentioned in the Novara expedition reports made it necessary to re-examine the original travel descriptions. This resulted in the discovery of several interesting and apparently little known facts regarding the voyage and the collections resulting therefrom. Since some parts of the descriptions are no longer readily available, the following itinerary of the voyage and comments on the herpetological collections have been prepared in the hope that they might prove useful to others working on related problems.

On May 30, 1857, the Austrian Frigate Novara left Trieste on a circumnavigation of the globe. This voyage, designed primarily as a training venture for navy personnel, was also intended as an opportunity to "show the Austrian flag at more points of the world" (Scherzer, 1861, v. 1, p. 3). Secondary purposes were to be served by the accumulation of geological and natural history collections. To implement the latter and to engage in researches and observations in various fields, the expedition was accompanied by a scientific commission.

ITINERARY OF THE EXPEDITION

The scientific commission of the Novara consisted of seven naturalists* of whom five are mentioned in various places as having made natural history collections. These are Ferdinand Hochstetter, the geologist, Eduard Schwarz, the botanist, Karl Scherzer, the ethnologist-geographer, and finally Georg Frauenfeld and Johann Zelebor, the two zoologists.

Schwarz, Frauenfeld, and Zelebor stayed with the Novara for the entire trip, while Hochstetter remained behind in New Zealand, at the request of that government, to make a more thorough geological examination of that region. When the expedition arrived in Chile, it was informed of the outbreak of the Franco-German war, so it was decided to discontinue the trip and return directly to Trieste. Scherzer, however, left the Novara at Valparaiso to travel separately up the west coast of South America (by steamer) and did not rejoin the expedition until its arrival in Gibraltar. The detailed itineraries of both Hochstetter and Scherzer follow that of the expedition as a whole.

During the two-year voyage the Novara expedition visited and collected extensively in 18 areas, besides making short stops in a number of other localities. In the itinerary that follows, names in capitals, generally prefaced by Arr. (Arrived) or Left, refer to those ports or anchorages touched by the Novara, while all localities mentioned as having been visited by shore parties, are given below this in lower-case letters. Statements in parentheses refer to items of herpetological interest in the text.

* An eighth one started with the ship, but was debarked at Gibraltar.

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Besides the localities, the itinerary contains the dates on which the various localities were visited and the volume and page references of the descriptive reports. The latter are all cited from the German first edition (Scherzer, 1861-1862). Where the geographic designations used in the text were no longer up to date, more modern ones have been added in parentheses.

ITINERARY OF THE Novara

Date 1857	Locality	Volume Pa	ıge
30 April	Left TRIESTE	I	12
20 May	Arr. GIBRALTAR	-	29
4 0 1/14()	Campamiento and St. Roque, Spain		40
	Algeciras		
30 May	Left GIBRALTAR		47
1 June	Anchored 15 miles N. of Malaga, Bay of		
J	FRANGEROLA		48
	No shore party, but visitors aboard.		
2 June	Left FRANGÉROLA		51
8 June	Arr. FUNCHAL, MADEIRA		55
3	Visit to N. of island, climb of Pico Ru	ivo	
	Porto San Jorge		
17 June	Left FUNCHAL	J	104
5 August	Arr. RIO DE JANEIRO, BRAZIL]	119
	Corcovado		125
	Larangeiras		125
	Andarahy (Andaraí)		126
	Waterfall of Tejucas (Tijucas)		126
	(Notes on use of rattlesnake bite as cu		
	for leprosy)		130
	Isla de Paquetá, Rio Bay (Paquetá)		144
	Other islands including Catalan (Cat	/	145
	Jujuba (encounter with Jararaca)		146
0.1 . 4	Serra da Estrella (Estrela) and Petrop		148
31 August	Left RIO DE JANEIRO		163
2 October	Arr. SIMONS BAY, CAPE COLONY		173
	Simonstown		175 176
	To Capetown via Chalk-Bay (Kalk-Ba	/	170
	Zoologists make headquarters at Halfw		
	House between Capetown and Simo	/115	178
	Bay		179
	Capetown Excursion from Capetown		191
	Stellenbosch		192
	Paarl		195
	Wellington, Waggon-maker's Valley,		
	Baine's Kloof		196
	Darling bridge over Brid (Breede) Ri	ver	197
	Worcester		198
	(Notes on paleontological material		
	collected in Beauford by Dr. Meyn	a rd)	199
	Crossing of Brid River in Worcester		
	Valley, Hot Wells of Brand Valley		200

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Date 1857	Locality	Volume Page
1057	Rendén Farm Donker's Hoek Kleene Islea Plaats (Farm), near Zon dorond (andless) River Consadondo	I 202 203
	derend (endless) River, Genaadenda (Mercy Valley or Bavian's Kloef) (Gift of natural history materials	204
	by Dr. Roser)	209
	Caledon	210
	Hauhoek and Sir Lowry's passes,	011
	Somerset West, Sandvliet Farm Macassar Down	211 212
		212
	Capetown Constantia	213
	Cape of Good Hope	220
26 October	Left SIMONS BAY	221
19 November	Arr. ST. PAUL ISLAND	225
	Preliminary reconnaissance	232
20 November	Collecting party ashore	240
6 December	(Novara returns second time to pick up part	y) 253
7 December	Left ST. PAUL	255
7 December	Arr. AMSTERDAM ISLAND	262
7 December	Landings on shore Left AMSTERDAM	267 271
	Lett AMSTERDAM	4/1
1858		
8 January	Arr. POINT DE GALLE, CEYLON	277
0 January	Galle	285
	Dadala Pánzela temple	287
	(Mention of presence in Galle of geckos of the forms <i>Tachybates triedrus</i> and	s
	Eurhous Leschenaultii)	290
	(Snake charmers and cobras)	291
	(Taming of snakes, snake cults), the	
	road to Colombo	292
	Bentotte	295
	Colombo Retrapurta Caltura	297 309
	Ratnapurta, Caltura Colombo	309 310
	(Use of herb oil as antidote for	510
	snake venom)	315
	Ratnapurta	318
	Gilli-mali, Adam's Peak	319
	Ratnapurta, Caltura	325
16 January	Arr. MADRAS, Coromandel Coast, India	328
20 January	Left GALLE (Saw sea-snakes) (Cobras, <i>Aspis naja</i> in the Zoological	326
	Park)	340
	Fort Vellore	346
	(Crocodiles) Arucati	347
	Alucati	349

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Date	Locality	Volume	Page
1858			0
	Sadras, Mahamalaipuram	Ι	353
	Lake Pulikat		364
10 February	Left MADRAS		367
23 February	Arr. N. side KAR NIKOBAR		367
25 February	villages of Moose and Sáui	II	11
27 February	Left N. side KAR NIKOBAR		25
28 February	Arr. S. side KAR NIKOBAR		25
00 E-1	Kómios		26
28 February	Left S. side KAR NIKOBAR		28
4 March	Arr. TILLANGSCHONG		29
6 March	Morrock Bay Left TILLANGSCHONG		29 32
6 March	Arr. NANGKAURI		52 33
0 Watch	Hóe		33
	Monghata Hill, Ulála Bay, Kamorta		55
	Island		34
	Enúang or Enong, Nangkauri		34
	Malacca		35
11 March	Left NANGKAURI		39
18 March	Arr. TREIS, visited island, left		41
	Arr. off LITTLE NIKOBAR, visited Pulo)	
	Milu, and left		45
19 March	Arr. N. of BIG NIKOBAR		45
	Kodul		45
	Big Nikobar or Sambelung		47
23 March	Moved N. to S. side of BIG NIKOBAR		51
28 March	Big Nikobar landing		52
28 March	Left NIKOBAR ARCHIPELAGO		53
	(Reptiles of the Nicobar Islands, Me		
	tion of "Gonyocephali, Calotae, E		
	tropis multifasciata, Liotropis Ernes Lampropholis sp. nov., Ptychozo		
	homalocephalum, Typhlopes, Bo		
	ropes, Platurus fasciatus, Docid	10-	
	phryne, Crocodylus biporcatus")		74
	(Chersydrus fasciatus attacks chaplain		
	aboard)		96
15 April	Arr. SINGAPORE, visit to island		98
21 April	Left SINGAPORE		127
5 May	Arr. BATAVIA (Djakarta), JAVA		129
13 May	Buitenzorg		146
14 May	Batoetoelis		152
	Pandok Gedeh		152
	Tjianjawar		155
	Tjipannas, foot of (Gununy) Pangera	ngo	155
	Pangerango		156
	Tjiandur, Bandong		168
	Tji-sokan, Tji-sokan River, Tjitarum		171
	[sic] River		171 172
	Lembang		174

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Date	Locality	Volume Pag	ge
1858			
18 May	Tangkuban Prahu	II 17	
	Bandong	18	
	Tji-Tarum	18	
19 May	Tjililin, Rongga District	18	32
20 May	Liotjitjangkang, Gunongatu, Tji		
	Burial, and Tji-Tangki Rivers	18	33
21 May	Tji-Lanang Valley, Tji-Tjamo Valley		
	Tjijabang, Tjuruk Baon	18	33
22 May	Tjuruk Alimun Falls of the Tji-Tarun	a;	
·	Gua, foot of Gunung Nungnang	18	34
23 May	Sanjang Tjikoro Mt., Radjamandala,		
	Tjiandjur, Batavia	18	84
17 May	(Dr. J. Ch. Ploem of Tjiandur presen	ts	
	natural history collection), Buitenzo		87
20 May	Batavia	19	
	(v. Schierbrand presents natural		
	history collection)	19	90
29 May	Left BATAVIA	19	
15 June	Arr. CAVITE, LUZON, P. I.	19	
10 J	Manila		98
	Laguna de Bay		30
	Patero village		33
	Los Baños		35
	(Alligators)		38
		4.	50
	Calamba Swamps, Jallajalla, Bianangonan	9/	41
	0		TI
	(Living "Boa constrictor" seen. Dime		47
95 June 9	sions: 48 feet long, 7 inches thick)		48
25 June	Left CAVITE		
5 July	Arr. HONGKONG, CHINA		50
	Travels on island		68 60
	Canton		69 75
10 1 1	Macao		75
18 July	Left HONGKONG		91
26 July	Arr. WUSUNG (Shanghai)		94
00 1 1	Shanghai		94
29 July	Moved WUSUNG to SHANGHAI		96
11 4	Sikkawéi		40
11 Augus			83
18 Septen			00
	Landing	40	00
	(Small lizards with metallic-sapphire		
	blue tails noted.)		02
	(Turtles in native diet)	40	07
	(Natives produce 500 pounds of		
10.5	tortoise shell annually)	42	23
18 Septen			
17 Octob			
	Stewart's Atoll	43	34
	Fáole, Sikayana	44	49

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Date 1858	Locality	Volume Page
5 November	Arr. PORT JACKSON, SYDNEY, NEW SOUTH WALES Sydney Cambden's Park Campbelltown Appin Bargo Wulongong, Illawara District Hunter River, New Castle coal fields, Ash Island (Monitor lizards, Thorny lizards), Sugar Loaf Mountain Coggerah Bay Long Bay	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
7 December 22 December	Left PORT JACKSON Arr. AUCKLAND Takapuna District Drury District, Judge Bay, Oraki Bay Oraki village Titarangi, Manukau Mountains	93 95 100 136 137 138
28 December28 December31 December	Otahus, Papakura Plain Tahake River Rama-rama Mangtawhiri River Waikato River Tuakau village	133 143 145 147 149 152 153
1859 2 January	Auckland	156 •
8 January	Left AUCKLAND (Hochstetter, the geologist, remained on New Zealand for eight additional months befor returning home separately. His itinerar	e
11 February	is given after that of the <i>Novara)</i> Arr. PAPEETE, TAHITI Pointe Venus Matavai village Fautáua Falls Lake Waiiria Faáa	198 176 195 196 199 201
28 February 17 April	Left PAPEETE Arr. VALPARAISO, CHILE Valparaiso (Valparaíso) (Gift of zoological collection by Dr. C Seget of Santiago de Chile, also b F. Leybold) Santiago de Chile (Santiago) Casa blanca, Curacaví (Casablanca) Maipu Melepilla (Mellipilla)	220 245 247 2.

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<i>Date</i> 1859	Loca	lity	Volume 1	Page
11 May	(Sch	Guillota (Quillota) VALPARAISO erzer, the ethnologist, le		274 284
l August	of Gi H	re, to travel separately up South America, rejoining ibraltar. His itinerary f ochstetter) GIBRALTAR	the Novara in	283 400
7 August 20 August 21 August	Left	GIBRALTAR Gravosa, Dalmatia RAGUSA, ITALY		401 402 402
26 August	Arr.	TRIESTE		407
1859		ITINERARY OF HOCHSTETTE	R	
January-Fel	bruary	Auckland Province explo Port Manukau, Waikato Coast, Drury and Pap Waikakere Mouth, Wa	Mouth on W. akura districts,	161
6 March		insula (Gift of zoologic Up Waikato River, and Whaingaroa, Aotea and Coast, Mokau District Wanganui River in T Lake Taupo, E. coast a Tauranga, Waiho Vall	al material) Naipa River Kawhia on W. to sources of Tuhua District, t Maketu, Port	163 164
		whia, Auckland Cape Colville Peninsula	, E. shore of	165
28 April 1 August	Left	Hauraki Gulf, Coroma Auckland; New Plymout Wellington, Middle Islan	h d	166
3 August		Nelson, Blind Bay, Golde (Received gifts of zoologi Sydney, Melbourne, Gol	cal material) d fields; re-	169 170
		turned to Europe via	Mauritius	172
1859		ITINERARY OF SCHERZER		
17 May 20 May 21 May 22 May		Coquimbo, Caldera, Chile Cobíja, Bolivia (Punta C Iquíque, Peru (Chile) Arica, Peru (Arica, Chile) Chimba, Peru	obija, Chile)	297 299 300 300 301
22 May 23 May 24 May		d'Islay (Punta Islay) Chala Pisco		304 307 307
		Chincha Island (Islas de Callao Lima Cajamarquilla in Rimac	,	308 313 315 329

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Date 1859	Locality	Volume	Page
	Chorillos	III	338
	Pachacamác (Pachacamac)		335
14 June	Huanchaco		371
15 June	San José de Lambojeque, Chota Distri	ict	
U	(San José, Depto. Lambayeque)		372
15 June	Payta (Paita)		372
20 June	Taboga Island (Panamá)		375
21 June	Panama (Panamá)		376
21 June	Paraiso, Culebra, Matachin		386
Ū	Barbacoa, Aspinwall (Colón)		387
23 June	Left Colon (Colón)		389
25 June	Cartagena, Venezuela (Colombia)		
30 June	St. Thomas		390
U U	(Gift of zoological material by A. Riise	e)	391
1 July	Left St. Thomas	,	391
18 July	Falmouth, England		397
19 July	Southampton, London		
27 July	Left for Gibraltar to rejoin the Novard	а	389

LITERATURE OF THE EXPEDITION

The records of the voyage were compiled and written by Scherzer, and were published almost simultaneously in Vienna and London (See Scherzer 1861-1862, and 1861-1863). The German edition only was reprinted in 1864-1866.

A secondary record regarding the voyage may be obtained by comparing the various letters and reports written by members of the expedition and published mainly in the *Sitzungsberichte der* . . . *Akademie der Wissenschaften, Wien*. Several members of the staff also appear to have written for the newspapers. As far as could be determined these reports are in good agreement with Scherzer. For the convenience of those who may wish to confirm details, an annotated, but by no means complete, set of references pertinent to the discussion has been appended.

The herpetological collections, stated to consist of 950 "Amphibien" (Scherzer, 1862, p. 410), were first examined by Fitzinger, who reported on them and the mammals collected by the expedition in a paper read before the kaiserliche Akademie der Wissenschaften zu Wien (1861). In this report the localities are just the major stops of the *Novara*, and no further details as to site of collection or number of specimens obtained were given. A number of new names were proposed in this paper.

The official reports on the collections were prepared by Steindachner (1867a, 1867b).* He stated that he disagreed with a number of Fitzinger's

^{*}The two sections were first published separately in 1867 (See British Museum ... AUSTRIA-HUNGARY). They were, however later republished as volume one of the zoological series at the time of completion of the last section, the complete volume bearing only the date 1869 on the title-page. This has resulted in a number of erroneous citations of the paper.

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determinations and new descriptions, and generally gives Fitzinger's names in the synonymy under the new determinations.

The Steindachner reports do, however, contain a number of most puzzling entries which necessitate exercising considerable caution in their use. The specimens collected by the *Novara* expedition were at first kept in a special exhibit, the "Novara Museum" in Vienna, and were only later added to the official collections of the Naturgeschichtlichen Museums zu Wien. During this time there appear to have been added some collections presented to the expedition, often from localities not visited by the *Novara* or its staff. These donations as well as specimens from entirely different collections are included in Steindachner's report, sometimes without special reference to the fact that they were of diverse origin.

To give a few selected examples for these various cases there are "Emys hamiltonii", "Pangshura tecta", and "Hemidactylus frenatus", collected near Calcutta by Dr. Stolička, "Sternotherus nigricans", and "Pachydactylus ocellatus" from Madagascar by Frau Ida Pfeiffer, "Ophryoessoides dumerilii nov. spec." from Para, Brazil, by Joh. Natterer, much other material by the same collector also being mentioned. The prize example, though, is "Pyxicephalus cordofanus n. sp." from Cordofan (Anglo-Egyptian Sudan) a locality not likely to be visited by any frigate.

There is also a series of forms donated by Steindachner himself, for example, "Pachydactylus ocellatus", and "Phyllodactylus lineatus", as well as specimens collected by expedition members during previous voyages such as "Crocodylus acutus (v. Frauenfeld, Ecuador).

Steindachner finally also refers to material in the Naturgeschichtlichen Museum zu Wien as well as other institutions (Mus. Havn.) and for some forms he simply states the "Fundort" (locality where found), without indicating whether he had a specimen in hand.

In spite of the above, it is generally possible to distinguish the materials of the various categories mentioned as the number of specimens from the proper collections of the *Novara* is generally given together with a reference to the member of the military or scientific staff who collected them. Cross checking between names and localities permits a definite answer in most cases, but, in view of the evidence listed above, such scrutiny is an absolute necessity.

This paper was compiled while working in Brazil under a John Simon Guggenheim Memorial Fellowship during 1953-1954. The use of the facilities of the Departmento de Zoologia, Secretaria de Agricultura, São Paulo, and the help from members of its staff are also gratefully acknowledged.

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SCHERZER, KARL VON

1861-1862. Reise der oesterreichischen Fregatte Novara um die Erde, in den Jahren 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllersdorf-Urbair. Wien, Kaiserlich-königliche Hof und Staatsdruckerei. 3 v. 1861-1862. Band I mit 5 Beilagen 1861. xii + 368 + (2) + 39 p., 14 plates, 34 cuts in text, 8 maps. Includes chapter of instructions by A. v. Humboldt entitled, "Physikalische und geognostische Erinnerungen." Folding map and errata slip loose in back pocket. Band II mit 7 Beilagen. 1861. viii + 454 + (2) + 28 p., 8 plates, 70 cuts in text, 15 maps. Subtitle: "Beschreibender Theil." Band III mit 9 Beilagen. 1862. viii+436+(2)+3+8+(1)+8 +(1) p., 18 plates, 63 cuts in text, 11 maps. Subtitle: "Beschreibender Theil." Errata sheets for v. 2-3 bound at end of volume. 1861-1863. Narrative of the circumnavigation of the globe by the Austrian

- Frigate Novara . . . London, 3 v., illustrated. V. 1 contains a preliminary chapter by A. v. Humboldt entitled, "Physical and geognostic suggestions."
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STEINDACHNER, FRANZ

- 1867a. Reptilien. In Reise der österreichischen Fregatte Novara . . . Zoologischer Theil, erster Band, Wirbelthiere. 98 p., 3 plates.
- 1867b. Amphibien. In Reise der österreichischen Fregatte Novara . . . Zoologischer Theil, erster Band, Wirbelthiere. 70 p., 5 plates.

Letters and Articles Not Cited in Text

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- 1858. Notizen über die Fauna Hongkong's und Schanghai's, gesammelt während des Aufenthaltes Sr. Majestät Fregatte Novara im Sommer 1858. Sitzber. math. naturwiss. Classe. kais. Akad. Wiss., Wien, v. 35, no. 10, p. 241-272 [not 172]. Report on Hongkong visit. Mentions some reptiles and amphibians on p. 245.
 - 1859. Notizen, gesammelt während meines Aufenthaltes auf Neuholland, Neuseeland und Taiti, bei der Fahrt Sr. Majestät Fregatte Novara in jenen Gewässern. Sitzber. . . Wien, v. 38, no. 26, p. 717-748.

Notes on the voyage through the islands. Few mentions of reptiles.

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 - 1859. Bericht des Herrn Custos-Adjuncten G. Frauenfeld über den Erfolg der ihm gewordenen Mission: die Weltumsegelungs-Expedition S. M. Fregatte Novara als Zoologe zu begleiten. Sitzber. . . . Wien, v. 38, no. 27, p. 814-820. Final report of the zoologist. Mentions 500 "Amphibien."
 - 1859. Mein Aufenthalt auf Taiti. Verhandl. kais.-könig. zool.-bot. Gesell. Wien, v. 9, no. 3/4, p. 183-198. Notes on excursions on Tahiti.

HAIDIGER, W.

- 1858. Drei Briefe von der Expedition der k. k. Fregatte Novara, von Singapore erhalten und mitgetheilt. Sitzber. . . . Wien, v. 30, no. 3, p. 175-190.
- Letters of v. Wüllersdorf, Scherzer, Hochstetter, with notes on the trip to Singapore, collections, etc. Mention of "Novara Museum." Neuste Nachrichten aus Sydney vom 10. November 1858. Sitzber. . . . Wien, v. 34, no. 2, p. 73-76. 1859.
- Description of the trip from China to Australia. 1859. Vorlage eines Schreibens von Herrn Dr. F. Hochstetter. Sitzber.
- ... Wien, v. 34, no. 3, p. 203-206. Travels in Australia
- 1859. Schluss des Aufenthaltes S. M. Fregatte Novara in Sydney. Sitzber. . . . Wien, v. 34, no. 5, p. 362-366. Lists of Australian animals donated to the collection. Reptiles listed on p. 364.

HOCHSTETTER, FERDINAND

Notizen über einige fossile Thierreste und deren Lagerstätten 1859. in Neu-Holland, gesammelt daselbst während des Aufenthaltes Sr. Majestät Fregatte Novara im Monate December 1858. Sitzber. . . . Wien, v. 35, no. 10, p. 349-358. Australian fossils.

KOLLAR, V.

1858. Aus einem Schreiben des mit der kaiserlichen Fregatte Novara reisenden Zoologen, Johann Zelebor. Sitzber. ... Wien, v. 30, no. 2, p. 171-174.

Notes on Gibraltar, Madeira (some amphibians collected), Rio de Janeiro, Cape of Good Hope, St. Paul, New Amsterdam, Ceylon, and Madras. Mentions shipment of specimens from Madras.

1858. Zweiter Bericht über die zoologischen Sammlungen des mit der kaiserlichen Fregatte Novara reisenden Naturforschers Johann Zelebor. Sitzber. . . . Wien, v. 31, no. 19, p. 226-228. Notes on collections made to and including Batavia. No mention of amphibians and reptiles.

SCHAUB, VON

1856. Auszug aus einem Schreiben des Herrn Dr. Schaub in Trieste an den General-Secretär. Sitzber. ... Wien, v. 22, p. 288. The original invitation to send two naturalists with the Novara.

SCHERZER, KARL VON

1858. Aus Dr. Karl Scherzer's Mittheilungen an die k. Akademie über einige, während des Aufenthaltes Sr. M. Fregatte Novara in Funchal (Madeira) und Rio de Janeiro gewonnenne Resultate. Sitzber. . . . Wien, v. 28, no. 3, p. 175-176. On curare.